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544 - CAN CONTINUOUS REMOTE SELF-MONITORING OF VITAL SIGNS FORECAST RESIDENTIAL CARE PLACEMENT AND MORTALITY OF OLDER ADULTS?

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Universidad de Alcalá; Atam; ViveLibre.

Resumen

Background/Objectives: Remote patient monitoring in older populations has the potential to improve health outcomes through aiding in earlier intervention, reducing travel barriers to care and enabling independent living. ViveLibre Salud is a system of apparatus that allow the user to measure vital signs and automatically uploads the measures to a central hub monitored by professionals and AI. The aim of this pilot study conducted with older/dependent adults is to explore the association between patterns observed in an individual's vital signs and mortality or institutionalisation in a residential care home.

Methods: Participants recruited in the study "Apoyos Conectados para la Autonomía Personal" (ACAP) funded by the govern of Aragon, were given ViveLibre Salud devices for self-measuring blood pressure, heart rate, SpO2, temperature, weight and blood glucose at home, at their own discretion over the course of the study. Measurements from each vital sign were summarised for each individual by mean, variability and trends over time of the mean and the variability. Cox-regression models were fitted adjusted for sex and age to assess the associations between each vital sign summary statistic and mortality and institutionalisation, as independent and composite outcomes.

Results: Nine-hundred and forty-eight individuals of on average 77.7 years (SD = 11.8) participated in the study. Median follow-up was 13.17 months (IQR: 7.7 to 17.7). Associated with a higher probability of death were low mean levels of SpO2 (p-value<

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0.01), and high values of variability in SpO2 (p-value< 0.001), of heart rate levels (p-value< 0.01) and heart rate variability (p-value< 0.05). While lower mean weight was associated with higher risk of death and/or institutionalization (p-value< 0.01).

Conclusions/Recommendations: By summarising the vital outcomes data in four statistics (mean, variability and their trends), significant associations are apparent with mortality and institutionalisation. SpO2, heart rate and weight were significant predictors of these outcomes. These findings support the development of protocols based on continuous virtual monitoring to alert clinicians when meaningful changes occur that may signal an important shift in an older person’s health.

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